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Promoting smoking cessation during hospitalization for coronary artery disease

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Background: Quitting smoking is the most effective intervention to reduce mortality in patients with coronary artery disease who smoke. Our department has implemented an institutional program to identify and treat all smokers admitted to the department.

Objectives: The objectives of the present paper are to describe core elements of this program and present data concerning its reach and effectiveness.

Program description: The goal of the program is to increase the number of smokers who are abstinent from smoking six months after a coronary artery disease-related hospitalization.

Results: Between January 2009 and April 2009, almost 109 smokers were identified at admission, and 72.5% received intervention to help them quit smoking. The average age was 52.6 \pm 8 years in the group “with intervention” and 53.6 \pm 7 in the group “without intervention”. The smoking status of our patients was similar between the two groups: in fact, the average age of onset of active smoking patients was 18.6 years in group “without intervention” and 19.4 years in group “with intervention” ($p=0.41$). At six-month follow-up, 76.7% of those receiving intervention were smoke-free against 55.7% of the group “without intervention” ($p=0.04$). In univariate analysis the absence of smoking intervention was predictive of MACCE in the medium term (OR=0.2, 95% CI [0.1 to 0.8]). In multivariate logistic regression analysis, predictors of smoking at six months after a coronary artery disease-related hospitalization were: the absence of receiving intervention at admission, the age of onset of smoking <20 years and the Fagerstrom score at admission > 7.

Conclusions: Hospitalization for coronary artery disease provides an important opportunity to intervene with smokers when their motivation to quit is high. An institutional approach reinforces the importance of smoking cessation in this patient population and increases the rate of smoking cessation. Post hospitalization quit rates should be a benchmark of cardiac program performance.

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Pre-hospital bivalirudin and prasugrel treatment before primary angioplasty in patients with myocardial infarction <12 hours. In-hospital outcome and bleeding complications in 71 consecutive patients

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Background: This prospective study evaluated pre-hospital anti-thrombotic association of bivalirudin (bolus 0.5 mg/kg followed by an infusion of 1.75 mg/kg/ hour) and prasugrel (60 mg loading dose) on in-hospital outcome in patients with acute myocardial infarction by primary angioplasty.

Methods and results: From June 2010 to October 2011 seventy-one consecutive patients of 54.2 \pm 9.2 years old were included, including 27 patients (38.0%) with anterior myocardial infarction and 15 patients (21.1%) with a TIMI risk score >2. The culprit artery was occluded in 46 patients (64.8%). Primary coronary angioplasty was performed 5.0 \pm 8.6 hours after symptom onset, with radial access in 58 patients (81.7%). TIMI III culprit vessel recanalisation was obtained in 71 patients (100%). Angioplasty procedure used 1.1 \pm 0.7 stents with effective thrombectomy in 31 patients (60.7%) in 51 thrombectomy attempts. Antithrombotic glycoprotein treatment was administered during angioplasty in 15 patients (21.1%). Peak troponin I reached 211.9 \pm 882.9 ng / ml, left ventricular ejection fraction was 51.6 \pm 9.4%.

During hospitalization we observed a MACE rate of 4.2% (1 death, 1 ischemic target vessel revascularisation and 1 reinfarction) and no stent thrombosis. Bleeding complication rate was 2.6% according to HORIZON criteria and 0% for severe or intermediate bleeding and 2.6% for moderate bleeding according to GUSTO classification.

Conclusion: In-hospital outcome in patients treated by primary angioplasty after pre-hospital bivalirudin and prasugrel treatment seems to have a low risk of ischemic and bleeding complications.

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Is there a protective effect of statins in contrast-induced nephropathy after coronary angiography?

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Background: Contrast-induced nephropathy (CIN) is a frequent complication after coronary angiography. In the exclusion of saline hydration, the effectiveness of other means of prevention remains unclear, and almost poor. Because of its pleotropic effects, statins have been used in CIN prevention, but data remains controversial.

Objective: to evaluate the benefit of statins in the prevention of CIN after coronary angiography.

Methods: We used the database of a randomized controlled trial conducted in our department during the period March to November 2010 to study the effectiveness of ascorbic acid in the prevention of CIN. Patients undergoing coronary angiography were randomly assigned to a saline hydration prevention protocol or a saline hydration associated to ascorbic acid protocol. The primary endpoint was the occurrence of CIN defined as a creatinin rise of more than 25% the baseline level during the following 48 to 72 hours. The relationship between statin intake at baseline and CIN incidence was retrospectively evaluated using a Chi-square test.

Results: Among the 202 patients included, 126 (62.3%) were treated with statins. There was no significant difference between the two groups concerning the baseline characteristics, particularly in ascorbic acid treatment ($p=0.94$). CIN incidence dropped from 20.8% in the patients not taking statins to 11.7% in those treated with statins. This resulted in a tendency ($p=0.08$) but difference wasn't statistically significant, probably due to the small sample of the population.

Conclusion: In our study, treatment with statins led to a trend to reduce CIN incidence. The small sample of the population couldn't allow stronger conclusion. Statins seem to be promising but larger trials are needed.

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Use of drug eluting stents: impact of french recommendations on the rate of clinical restenosis at two years

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Aims: The drug-eluting stents reduce restenosis rate compared to bare metal stents. The clinical efficacy is greater in some subgroups of patients at high risk of restenosis. The aim of this study is to evaluate the use of drug-eluting stent based on the recommendations of the French Society of Cardiology and his impact on the restenosis rate at 2 years.

Methods: We included all patients who had coronary angioplasty with stenting in 2008. We evaluated the percentage of drug-eluting stent, the proportion of patients for which the French recommendations have been followed, and the rate of clinical restenosis at 2 years.

Results: Four hundred and seventy-nine angioplasties were performed in 2008. The percentage of drug-eluting stents was 21.8%. Acute coronary syndrome with or without elevation of the ST segment were the main indications of angioplasty (67.9%). For the 115 drug-eluting stents implanted in 2008, French recommendations were followed in 93% of cases (107 stents). For 89 patients who received DES, these recommendations were followed in 91% of cases (81 patients). The clinical restenosis rate at two years evaluated in 89% of patients was 5.6%. The rate of in-stent restenosis in bare metal and drug-eluting stents were 5.9% and 3.7%.